

Battelle Memorial Institute

Scientists learn to clean up with high-tech tank

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DUXBURY — Oil spills have become a regular occurrence in this seaside town. But these spills aren't killing wildlife and fouling beaches.

The spills in a 1,000-gallon wave tank are helping scientists figure out how best to clean such disasters in the wild.

The wave tank at Battelle Marine Science, one of only three like it in the world, can emulate marine

environments from wintry Norway to tropical Venezuela.

"Learning how to better predict oil behavior is really the name of the game" in improving spill clean-ups, Allen D. Uhler, a senior Battelle researcher, told the Boston Sunday Globe. "It's all about your windows of opportunity and when they close."

The tank lets scientists see how quickly different types of oil spread, evaporate and emulsify under vary-

ing weather conditions. Once oil has emulsified with the water into a thick, goopy substance, it cannot easily be skimmed off with booms.

The tank also allows researchers to test cleanup chemicals known as dispersants, detergents that break up clumps of oil. Dispersants also carry some risk of environmental damage, so it is important only to use them when it is clear they can be effective.

The tank can generate water and air temperatures ranging from

24 to 86 degrees, and winds and waves up to gale force. Then, computerized sensors record detailed information on the size of oil droplets and the amounts of hydrocarbons in the air and water.

The Battelle laboratory was founded under a contract with the Marine Spill Response Corp., a cleanup company formed in the wake of the 1989 Exxon Valdez oil spill in Alaska and funded by the major oil companies. The tank began operating in April.

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